G.A.S.P.E.N. Newsletter

Spring 2015 | Georgia Society of Parenteral and Enteral Nutrition | Issue 3

In this Issue:

EDITOR'S WELCOME:

Welcome to all of our new and current G.A.S.P.E.N. members!
The G.A.S.P.E.N. board is very excited and energized about future events and Clinical Nutrition Week, which took place in March this year. Three of G.A.S.P.E.N.'s board members were fortunate to attend CNW15 and have agreed to share some useful information with everyone. As always, we are committed to providing nutrition support education and programming across all disciplines.

In our Spring issue, you will also see an update of the most prominent and relevant nutrition-related shortages. Many thanks to Ron Spiegalman for this update! In our last issue, you may have noticed a survey about enterally feeding critically ill obese patients. We have the survey results on pages 4-6 of this issue. Lastly, the nutrition support team at Atlanta Medical Center (AMC) has conducted a quality improvement study to establish institution-specific criteria to identify malnourished inpatients and to compare outcome differences between malnourished and non-malnourished patients with various disease states. We have the abstract of that study on page 10 of this issue.

G.A.S.P.E.N.'s future meeting will be held this summer, and we hope to "go back to the basics" with a focus on acid-base disorders! If there are any particular areas of interest that our members would like to discuss at future meetings, please feel free to contact Adina Hirsch, G.A.S.P.E.N. president, at adina.hirsch05@gmail.com.

I would like to thank everyone who has contributed articles to this issue of the newsletter. If you would like to publish an article in future editions of the G.A.S.P.E.N. newsletter please contact me, Khatija Jivani, at kjivani@gwinnettmedicalcenter.org or Adina Hirsh at adina.hirsch05@gmail.com.
At GASPEN, we strive to provide our members with ongoing educational opportunities and we plan to host another CE event in the near future. Stay tuned for details!

Khatija

MEMBER SPOTLIGHT: Kathleen Crim, RD, LD

Kathleen is a clinical dietitian at Grady Memorial Hospital. Prior experiences include working as a clinical dietitian for Northside Hospital Cherokee and as a Wellness Resource Specialist for Morrison Management Specialists. She completed her dietetic internship at Southern Regional Hospital in Riverdale and is a graduate of the Georgia State University College of Health and Human Sciences with a degree in Nutrition and Dietetics. Kathleen is a proud board member of A.S.P.E.N. and G.A.S.P.E.N., and we are thrilled to have Kathleen involved with our G.A.S.P.E.N. chapter!

MEET THE BOARD

President: Adina Hirsch, PharmD, BCNSP

Adina has been practicing nutrition support since her residency at Atlanta Medical Center in 2006. She served as a nutrition support pharmacist at St. Joseph's Hospital of Atlanta (SJHA) from 2007 – 2012. She is currently an assistant professor for pharmacy practice at the Georgia Campus of Philadelphia College of Osteopathic Medicine, School of Pharmacy, where she teaches nutrition, nutrition support, critical care and dietary supplements. Her practice site is SJHA where she serves as the nutrition support pharmacist. Adina has served on the GASPEN board as president-elect since 2011.

Past-President: Azy Armaghan, PharmD, BCNSP

Azy completed a nutrition support residency at Emory and has been working as a nutrition support pharmacist at Northside Hospital. She served as GASPEN president for three years.

Treasurer: Jean Robinson, PharmD, BCNSP

Jean is a clinical pharmacist at Pride Medical. She worked as a nutrition support pharmacist
for many years at Georgia Baptist Hospital (currently Atlanta Medical Center). Jean has been the treasurer for GASPEN for two years.

Secretary: Marlene Neville, RD, LD, CNSC

Marlene works at CORAM Specialty Infusion Center as a nutrition support dietitian. Marlene has been a member of GASPEN since its inception and has served on the GASPEN board for many years, including serving as president for 3 years.

Newsletter Editor: Khatija Jivani, PharmD , BCPS

Khatija is a clinical pharmacist at Gwinnett Medical Center in Lawrenceville, where one of her specialties = is nutrition support. She received her pharmacy residency training at Saint Joseph's Hospital after receiving her PharmD from the University of Georgia. Khatija is a Board Certified Pharmacotherapy Specialist and has served on GASPEN's board for one year.

Membership Chair: Laura Still, MA, RD, LD

Laura is a nutrition support dietician for Walgreen's Infusion Services in Atlanta with previous hospital experience at North Fulton and Kennestone Hospital. As the board's membership chair, Laura is responsible for member recruitment and GASPEN marketing.

Members at large:

Melissa Sugarman, MS, RD.

Melissa works at Abbott Nutrition as an Acute Care Specialist in Therapeutic Nutrition in hospitals in the Atlanta area. She previously worked as an inpatient clinical dietitian and spent many years working in home care. Melissa has been a member of GASPEN for seven years.

Kristen Shell, PharmD, BCPS

Kirsten is a practicing clinical pharmacist in the community hospital setting at Atlanta Medical Center in Atlanta, GA. She completed her pharmacy residency training at Atlanta Medical Center after receiving her PharmD from the University of Georgia. Kristen is a Board Certified Pharmacotherapy Specialist, and was voted a future leader for A.S.P.E.N. She is involved in several committees in A.S.P.E.N. including the Drug-Nutrient Interaction (DNI) committee and the Clinical Practice Committee.

Kathleen Crim, RD, LD

Kathleen Crim works at Grady Memorial Hospital as a clinical dietitian. Please see the member spotlight on the previous page for more information about Kathleen.

Ronald Spiegalman, PharmD, BCNSP

Ronnie has been practicing nutrition support as a clinical pharmacist since 1989. He has over 25 years of experience at Grady as a nutrition support clinician. Ronnie's other practice sites have included Barnes Healthcare Services, Healix Infusion Services, and Soleo Health. He has also worked as a research pharmacist at Emory University School of Medicine. Needless to say, Ronnie has many years of experience and we are very happy to have him as a G.A.S.P.E.N. member!

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Parenteral Nutrition Product Shortage: February Update

Ron Spiegelman, Pharm.D., BCNSP

Shortages of sterile injectable medications, including parenteral nutrition (PN) components, have been ongoing since 2010. These medications are manufactured by a limited number of pharmaceutical firms. Over the past 5 years, the supplies of PN components have fluctuated from having none of a particular component to having a supply sufficient to meet our patients' daily needs. Many of these shortages have resolved; however, currently, a number of PN components are in short supply (see table below). A.S.P.E.N. and the American Society of Health-System Pharmacists (ASHP) have summarized these shortages.

As of December 2014, ASHP has listed the following PN components as being in short supply:

- Calcium gluconate & calcium chloride
- Dextrose 70% water
- Cyanocabalamin
- Electrolyte concentrate
- Iron Dextran
- Magnesium sulfate
- Multivitamins (adult and pediatric)
- Phosphate injection
- Potassium chloride
- Sodium chloride 23.4%
- Sodium phosphate
- Sterile water for injection
- Trace elements
- Zinc

Guidelines for managing specific shortages can be found on the ASHP and A.S.P.E.N. websites.[1, 2] Specific guidelines for managing injectable phosphorus and trace element shortage were published in the May 2014 G.A.S.P.E.N. newsletter. [3]

General guidelines recommend the following:

- Use oral or enteral preparations whenever possible.
- Use of pediatric intravenous multivitamins and trace elements for adults is not recommended and may result in a shortage of pediatric products.
- When all supply options are exhausted, ration intravenous nutrients in PN or administer individual parenteral vitamins.
- Purchase only the supply needed, do not stockpile.
- Avoid using trace elements in IV fluids
- Be aware of signs and symptoms of trace element deficiencies

Item	Reason	Resolution Date	Recommendations
Dextrose 70%	Mfr delay	Unknown	Use dextrose 50%
Calcium gluconate	Mfg delay, demand, contamination	Check wholesaler	
Calcium chloride	Mfg Delay, higher demand	Check wholesaler	Limited stability. Limit to 5 mEq/L in TPN
Cyanocobalamin	Mfr delay: American Regent	Check wholesaler	Use other mfg
Electrolyte concentrate	Mfr delay: American Regent	Check wholesaler	Use other mfg
Iron Dextran	Mfr delay: American Regent	Unknown	Use: Iron Dextran, INFeD, Actavis 50 mg/mL
Magnesium sulfate	Mfr delay, higher demand	March 2015	Premixed bags available
MVI: Adult	Hospira: Mfg Delay	Feb. 2015	Baxter MVI available
Potassium Chloride: 2 mEq/ml vials	Baxter: Mfg Delay	Unknown	Use: Hospira or B-Braun
Potassium Phosphate, inorganic	Mfr Delay, higher demand	Unknown	Available: Fresnius Kabi
Sterile water large volume bags	Mfr delay, higher demand	Mfr allocation. Check wholesaler	0.45% or 0.9% NaCl can be used as a Na, Cl & H_2O source.
Sodium chloride concentrate	Mfr delay, higher demand or discontinuation	Check wholesaler	0.45% or 0.9% NaCl can be used as a Na, Cl & H_2O source.
Sodium phosphate	Mfr delay or instability	Check wholesaler	Oral supplements when possible Potassium phosphate if not hyperkalemic
Trace elements	Mfr delay	Check wholesaler	Use Individual injectable or oral components Consider use of Addamel N
Zinc	Mfr delay	Check wholesaler	Use oral supplements when possible

References:
1. www.ashp.org
2. www.nutritiocare.org
3. Current Shortages, Local Practices: Managing Trace Elements and Phosphate Salt shortages in the Atlanta: Hirsh A, Shell K; GASPEN News Letter. May 2014

How Are We Feeding Our Critically Ill Obese Patients? Survey Results

Andy Evans, RD, MBA, Adina C. Hirsch, PharmD, BCNSP, Khatija Jivani, PharmD, BCPS

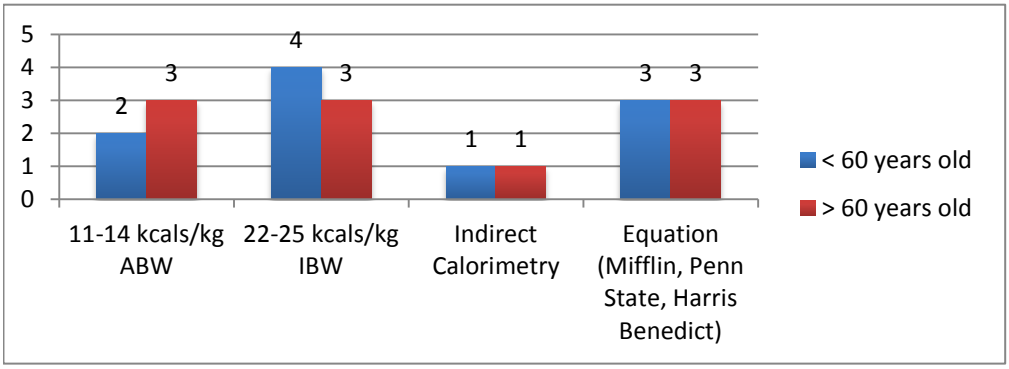
According to the 2011-2012 National Health and Nutrition and Examination Survey, approximately 35% of adult men and women in the United States are obese.[1] In June, 2013, the American Medical Association classified obesity as a disease, requiring intervention to both treat and prevent both obesity and its negative impact on health such as diabetes and cardiovascular disease. [2]

There are many predictive equations for determining the energy needs of patients requiring nutrition support. How, then, do clinicians select the most appropriate equation to determine the needs of obese patients? When do they recommend enteral nutrition in critically ill obese patients? When do they recommend parenteral nutrition? Which nutrients and deficiencies do they monitor for? The following results are based on responses from the Obesity Survey published in G.A.S.P.E.N.'s Fall Newsletter.

Results

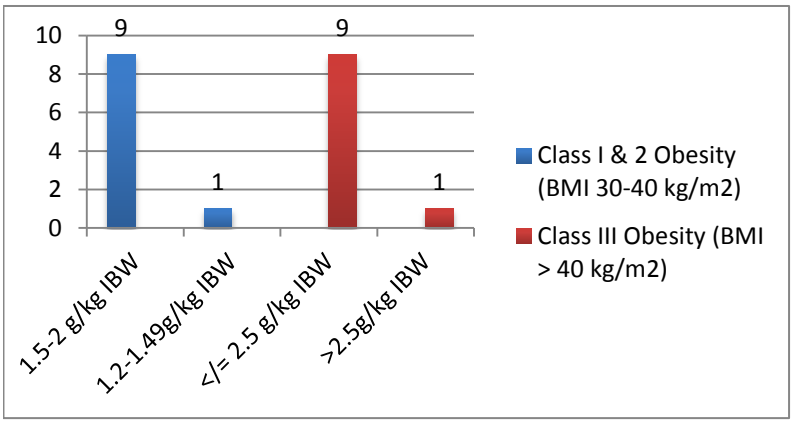
- A total of ten healthcare professionals partook in the survey, five pharmacists and five clinical dietitians. Eight of the 10 participants are part of a nutrition support team in a hospital (teaching, community, and cancer hospital) and two reside in home infusion pharmacies. Thirty percent of the responders have been practicing for more than ten years, and thirty percent have been practicing for less than five years.

- "When calculating energy requirements of critically ill obese and morbidly obese patients, which method do you use?"

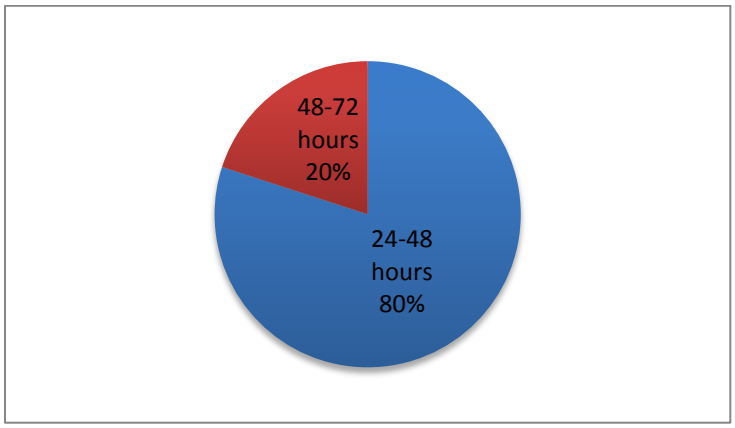


- Eighty percent of the survey participants responded "Yes" to the question, "In an effort to avoid the complications that may arise from overfeeding, have you used a hypogaloric, high-protein feeding regimen in critically ill obese and morbidly obese patients?"

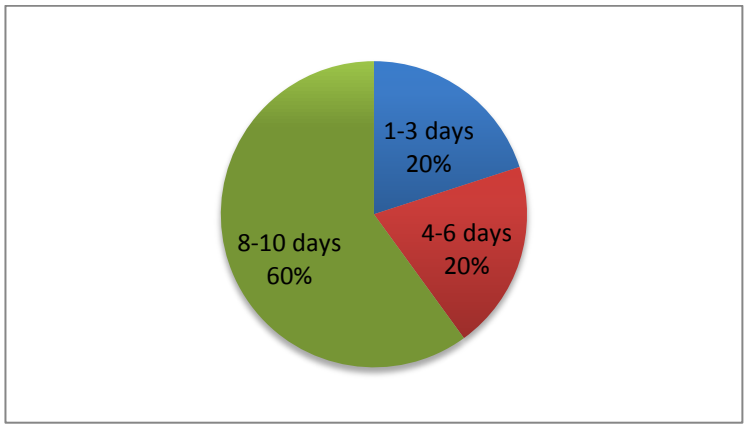
- "When calculating protein requirements for critically ill obese patients, what are your recommendations?"



- "How soon do you recommend enteral nutrition after admission in critically ill obese patients?"

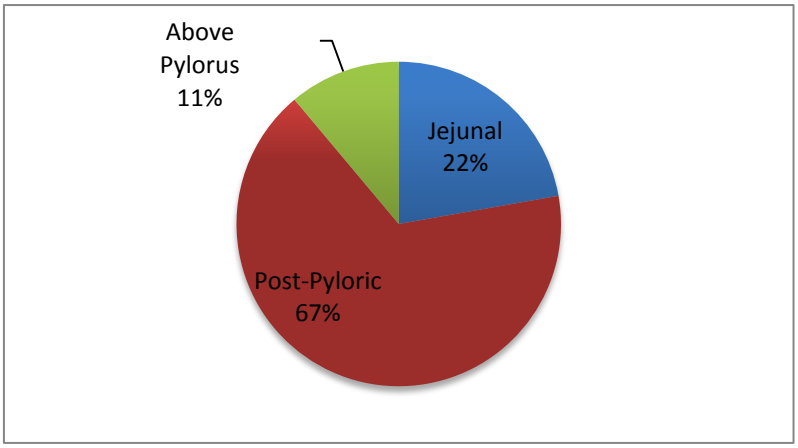


- "How soon do you recommend parenteral nutrition, when enteral nutrition is unavailable, after admission?"



- "When assessing and/or monitoring patients with a BMI > 30 in the ICU who have had either restrictive or malabsorptinve surgical procedures, which micronutrients do you monitor and/or supplement?"
  - Thiamine: 60%
  - Iron: 30%
  - Vitamin D: 30%
  - Vitamin B12: 30%
  - Calcium: 10%
  - Vitamin C: 10%
  - All of the above: 10%

- Ninety percent of participants answered, Yes" to the question, "Do you make recommendations of where to place a feeding tube in order to minimize the risk of GERD, regurgitation, aspiration, and dysmotlity n patients with a BMI > 30?"



- "Which specialized enteral formulas do you use in order to achieve optimal nutrient intake for your obese patients?"
  Impact 1.5®: 30%
  Peptamen Bariatric®: 30%
  Peptamen AF®: 10%
  Vital 1.2®: 10%
  None: 20%

- Lastly, of the ten participants, 70% responded, 'Yes" to the question, "Do you use modular protein supplements?" Four specified using Beneprotein®; one responder specified using Juven®.

Based on the survey released in August, it can be concluded that although indirect calorimetry may be the ideal method of determining caloric needs, it is not the most feasible method. Only one of the survey responders admitted to utilizing indirect calorimetry in his or her clinical setting. The other clinicians have varied methods of determining caloric needs. Once again, there is no clear consensus on which method/calculation to utilize when determining metabolic needs for a patient. The majority of participants, however, did agree to providing a hypocaloric and high-protein (up to 2.5g/kg IBW) feeding regimen to critically ill obese patients.

The Society of Critical Care Medicine (SCCM) recommends initiating early enteral nutrition in critically ill patients. The majority of survey responders abide by these guidelines and recommend enteral nutrition in critically ill obese patients within the first 24-48 hours upon admission. When enteral nutrition is not available or feasible, eighty percent of the participants wait at least 4 days before recommending parenteral nutrition in this population.

Most clinicians admit to supplementing enteral nutrition with thiamine. Other vitamins may be added based on the patient's history, medication list, current disease state, or known deficiencies. Seventy percent of the responders also supplement enteral feedings with protein supplements, with Beneprotein® as the most commonly used product. Lastly, the majority of participants use some type of specialized formula for feeding critically ill obese patients, and ninety percent of the survey responders recommend post-pyloric or jejunal feeding tube placement in patients with a BMI > 30 mg/kg^2 to minimize the risk of GERD, regurgitation, aspiration, and dysmotility.

Although the survey did not generate many responses, it is one of the few attempts at understanding clinical practices of nutrition support clinicians, locally. We hope for future research to facilitate further understanding regarding the appropriate metabolic management of these complex patients.

For questions or more information regarding the survey data, please contact Khatija Jivani at kjivani@gwinnettmedicalcenter.org.

References:
1. Ogden CL, Carroll MD, Kit BK, Flegal KM. Prevalence of Obesity Among Adults: United States, 2011-2012. NCHS Data Brief No. 131, October 2013. http://www.cdc.gov/nchs/data/databriefs/db131.pdf. Accessed August 21, 2014.
2. AMA Newsroom Statement June 18, 2013. http://www.ama-assn.org/ama/pub/news/news/2013/2013-06-18-new-ama-policies-annual-meeting.page. Accessed August 20, 2014.
3. Kushner R, Drover J. Current Strategies of Critical Care Assessment and Therapy of the Obese (Hypocaloric Feeding): What Are We Doing and What Do We Need to Do? *JPEN J Parenter Enteral Nutr* 2013; 35(1) Suppl: 36S – 43S.
4. Frankenfield DC, Roth-Yousey L, Compher C. Comparison of predictive equations for resting metabolic rate in healthy non-obese and obese adults: a systematic review. *J Am Diet Assoc*. 2005; 105(5): 775 – 89.
5. Schlein KM, Coulter SP. Best Practices for Determining Resting Energy Expenditure in Critically Ill Adults. *Nutr Clin Pract* 2014; 29(1): 44 – 55.
6. Frankenfield DC, Ashcraft CM, Galvan DA. Prediction of Resting Metabolic Rate in Critically Ill Patients at the Extremes of Body Mass Index. *JPEN J Parenteral Enteral Nutr* 2013; 37(3): 361-367.
7. Braunschweig CL, Levy P, Sheean PM, Wang X. Enteral compared with parenteral nutrition: A meta-analysis. *Am J Clin Nutr* 2001; 74(4): 534 - 42.
8. Choban P, Dickerson R, Malone A, Worthington P, Compher C. A.S.P.E.N. Clinical Guidelines: Nutrition Support of Hospitalized Adult Patients with Obesity. *JPEN J Parenter Enteral Nutr* 2013; 37(6): 714 – 44.
9. McClave S, Martindale R, Vanek V, et al. Guidelines for the Provision and Assessment of Nutrition Support Therapy in the Adult Critically Ill Patient: Society of Critical Care Medicine (SCCM) and American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.). *JPEN J Parenter Enteral Nutr 2009*; 33(3): 277 – 316.

Clinical Nutrition Week 15: Session Overview

Several of GASPEN's board members had the opportunity to attend Clinical Nutrition Week (CNW) 15 in Long Beach, Ca, including Kathleen Crim and Adina Hirsch. These members have summarized some of the presentations and topics of interest during CNW15 and have also provided many important clinical pearls from the sessions. Please visit http://www.nutritioncare.org/CNW/ for more information.

Kathleen Crim, RD, LD:

"Clinical Nutrition Week (CNW) 2015 was an amazing learning experience in Long Beach, CA! I was able to attend so many wonderful sessions that were thought-provoking and taught me many things that I can utilize daily in the clinical setting. One of the key sessions I attended was, "Late Breaking Topics in Clinical Nutrition." During this session, recent trials and data were presented, including: The CALORIES Trial, Meta-Plus Trial, ICU Microbiome Project, and The Target Trial. If you have not read these, I recommend you do so. A topic during the "Nutrition and Metabolism Research Paper Session: Enteral Nutrition," was the topic of volume vs. rate based approach in enteral nutrition. A volume based approach allows patients to achieve increased calories closer to their goals. Highlights from other sessions included:"

- EDEN Trial and research on feeding patients on pressors.
- There is no difference between full and trophic feeds in mortality in ICU patients.
- Supplementing EN with PN early in ICU has limited if any benefit.
- Muscle depletion may be a predictor of increased mortality.
- Only use specialized renal formulas for tube feeding patients with AKI not on dialysis, if electrolytes are abnormal.
- Giving CRRT patients <1.4 g protein/kg causes increased muscle breakdown.
- Protein in AKI patients in the ICU does not damage the kidney and may actually be beneficial in aiding the body to heal. Look at how much protein is actually being delivered by the feedings.
- The new malnutrition guidelines can be used to assess patients in the ICU.
- Hypocaloric feeds provide 50-75% of EEN.
- A combination of prokinetic agents could be more beneficial than a single agent in GI dysmolitliy in ICU patients.
- Whey protein can increase gastric emptying vs. casein protein slowing down gastric emptying.
- Gastric residual volumes show no association with pneumonia or aspiration pneumonia.
- Small bowel feedings can reduce the risk of pneumonia.
- In mild acute pancreatitis, soft or full solid oral diet is safe and well tolerated.
- EN is preferred over PN in severe acute pancreatitis.

Adina Hirsch, PharmD, BCNSP – "Reimbursement for TPN in the Outpatient Setting: A guide for the Nutrition Support Clinician"

Medicare is the largest payer of home parenteral nutrition (PN) in the United States. Although many patients requiring PN may have private insurance, many private insurance companies are using Medicare guidelines as well. It is, therefore, very important for the nutrition support clinician to be aware of the criteria for qualification for Medicare approval.

In order to reimburse for home PN, Medicare requires permanent dysfunction of some portion of the GI tract. In effect, PN replaces the small bowel. Therefore, supplemental TPN is NOT covered under Medicare. Medicare Part B covers PN equipment (pumps, tubing) whereas Medicare Part D covers PN components.

Medicare criteria for home PN are very complex. As stated above, in order for a patient to qualify for reimbursement for PN, there must be DOCUMENTED evidence of permanent (> 90 days) dysfunction or malabsorption as defined below (A-H):

A. Short bowel syndrome: Surgery within the PAST 3 MONTHS leaving < 5 feet of small bowel beyond the ligament of Trietz
B. Short bowel syndrome resulting in:
    - Electrolyte malabsorption **AND**
    - GI fluid intake of 2.5 – 3 liters/day resulting in enteral losses of >50% of PO/EN intake **AND**
    - UOP < 1 liter/day

C. Bowel rest required for > 90 day **AND** receiving 20 – 35 kcal/kg daily IV for:
   - Symptomatic pancreatitis with or without pseudocyst **OR**
   - Severe exacerbation of regional enteritis **OR**
   - Proximal EC fistula where tube feeds distal to fistula are not possible

D. Complete bowel obstruction where surgery is NOT an option

E. Malnourished as evidenced by:
   - 10% weight loss over ≤ 3 months **AND**
   - Serum albumin < 3.4 gm/dL **AND**
   - Severe fat malabsorption (fecal fat > 50% PO/EN intake on a diet of ≥ 50 gm fat/day per 72 hour fecal fat test)

F. Malnourished as evidenced by:
   - 10% weight loss over ≤ 3 months **AND**
   - Serum albumin < 3.4 gm/dL **AND**
   - Severe stomach or small intestine motility disturbance unresponsive to prokinetic therapy
     - Demonstrated scintigraphically or radiographically
     - These studies cannot be done when patient is acutely ill or on medications that can decrease gut motility

If patients do NOT meet any of the above requirements (A-F), then they MUST meet the following:
   - MAINTAINANCE of weight and strength commensurate with overall health must NOT be possible using these approaches:
     - Modifying nutrient composition of the PO/EN diet (e.g. Lactose-free, gluten-free, low LCT, higher MCT, semi-elemental or elemental protein) **AND**
     - Utilizing pharmacological means to treat the etiology of the malabsorption (Eg. Pancreatic enzymes, antibiotics for small bowel bacterial overgrowth, prokinetic agents) **AND**

G. Malnourished as stated above (10% weight loss/3 months, albumin < 3.4 gm/dL) **AND**

H. Has a DOCUMENTED disease or clinical condition that has NOT responded to altering the manner of delivery of appropriate nutrients EN (stomach, post-pyloric, jejunum)

For patient safety and quality of care, it is vital for both inpatient and outpatient nutrition support clinicians to be aware of Medicare guidelines in order to efficiently and safely transition our patients from the hospital to the outpatient setting. Communication by effective documentation is key in order to ensure a smooth transition and to ensure that our patients do not have any interruption in PN and in reimbursement. Below are some clinical pearls to help the nutrition support clinician transition their PN patients to the outpatient setting.

Transitioning PN patients to the outpatient setting: Some Clinical Pearls

- Document, document, document!
  - Indication for TPN
  - Duration of TPN (>90 days for Medicare reimbursement)
  - Any labs or tests that have been done to support the diagnosis or indication for TPN (albumin, fecal fat test, radiography, surgical records, history of failure of EN/PO trials)
  - Ins (PO/EN/IV) and Outs (**UOP**, fistula output, stool output, NG output)
  - Weight (include trends)
- Ensure that your PN prescription is within Medicare guidelines
  - See box below for macronutrient guidelines, and If outside of Medicare guidelines, document why!
- If transitioning from 2-in1 TPN in the inpatient setting to TNA in the outpatient setting:
  - Make sure that the PN prescription is compatible with TNA regarding stability (see box)

- Utilize a TPN discharge form with the following information:
  - Clear PN prescription
    - Macronutrients and micronutrients with amounts per TPN bag (not per liter)
      - Volume and rate with Instructions for cycling TPN if applicable
    - Other additives (insulin, famotidine, separate trace elements)
  - Special instructions when necessary
    - Supplemental IV fluids
    - Specific monitoring parameters
  - Name of PN prescriber with contact information
  - Name of MD (if different than above) with contact information
    - If the MD who will be following the patient as an outpatient is different than the inpatient MD, try to clarify that as well.
  - Supporting documentation for PN indication (see above)
  - If possible, fax recent labs and institution-specific monitoring forms

Macronutrient requirements for TPN (Medicare)

- Energy: 20 – 35 kcal/kg
- Protein: 0.8 – 1.5 gm/kg
- Fats: ≤ 1500 gm per month (≤ 50 gm daily)
- Dextrose: ≥ 10%

Additional documentation required for:

- Any macronutrient requirements that do not fall within the above parameters
- PN < 7 days/week
- Need for specialized nutrients (Eg. specialized amino acid formulations)

TNA (3-in-1) macronutrient requirements for stability:

- ≥ 10% dextrose
- ≥ 4% amino acids
- ≥ 2% lipids (some recommend ≥ 2.5%)

References:

Barber JR, Sacks GS. *Parenteral Nutrition Formulations*. The A.S.P.E.N. Nutrition Support Core Curriculum 2nd edition. 2012. Pages 245 – 264.

Medicare TPN Qualification Checklist. https://www.chartwellpa.com/pdf/medicare_tpn_checklist.pdf. Accessed 02.23.15.

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Impact of Malnutrition in Patients with Targeted Disease States on Hospital Length of Stay and Readmission Rates

Yolanda Whitty, PharmD; Teresa Pounds, PharmD, BCNSP; Albert Barrocas, MD; Annesha Lovett, PharmD, PhD; Pamela Moye, PharmD, AAHIVP; Sandra Mouton, RD, LD
Atlanta Medical Center, Atlanta, GA

Background: Suboptimal nutritional status has been shown to negatively impact patient outcomes, increase hospital length of stay (LOS), and potentially increase hospital readmission rate (HRR). Pneumonia (PNA), acute myocardial infarction (AMI), stroke, and heart failure (HF) are among the most prevalent conditions associated with hospitalization and hospital readmissions. Identification of inpatient malnutrition in patients with these disease states may be an effective component of management to reduce LOS, HRR, and hospital costs. The goal of this quality improvement study was to establish institution-specific criteria to identify malnourished inpatients and to compare outcome differences between malnourished and not-malnourished patients with PNA, AMI, HF, and stroke.

Methods: Patients with discharge diagnoses of PNA, AMI, stroke, and HF admitted to a tertiary care, teaching hospital between January to March 2014 were retrospectively identified and categorized as malnourished (MAL) or not malnourished (NMAL) using criteria derived from the 2012 Consensus Statement of the Academy of Nutrition and Dietetics/American Society for Parenteral and Enteral Nutrition: Characteristics Recommended for the Identification and Documentation of Adult Malnutrition (Undernutrition) and approved by a multidisciplinary, nutrition support team. Within each disease state group, the primary endpoints of average LOS, HRR, and hospital costs between malnourished (MAL) and not-malnourished (NMAL) patients were evaluated.

Results: Of the patients with PNA (n=24), AMI (n=12), stroke (n=25), and HF (n=28), there were 10 (42%) and 14 (58%); 5 (42%) and 7 (58%); 11 (44%) and 14 (56%); and 9 (32%) and 19 (68%), classified as malnourished and not-malnourished, respectively. Average LOS for MAL and NMAL patients with PNA, AMI, stroke, and HF was 7.8 and 7.2 (p=0.23); 5.6 and 9 (p=0.41); 8.4 and 4.7 (p=0.05); and 3.9 and 5 (p=0.11). HRR for MAL and NMAL patients with PNA, AMI, stroke, and HF was 7.8 and 7.2 (p=0.23); 5.6 and 9 (p=0.41); 8.4 and 4.7 (p=0.05); and 3.9 and 5 (p=0.11). Average LOS for MAL and NMAL patients with PNA, AMI, stroke, and HF was 7.8 and 7.2 (p=0.23); 5.6 and 9 (p=0.41); 8.4 and 4.7 (p=0.05); and 3.9 and 5 (p=0.11).

Get involved with G.A.S.P.E.N.!

Do you have any ideas for programming? Do you want to present your research or poster? Would you like to have more networking events?

We encourage our members to volunteer for committees, become involved as board members, and speak at meetings and present posters and abstracts.

Would you like to contribute an article to our newsletter?

Feel free to contact our board members for more information.

Contact the Board

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